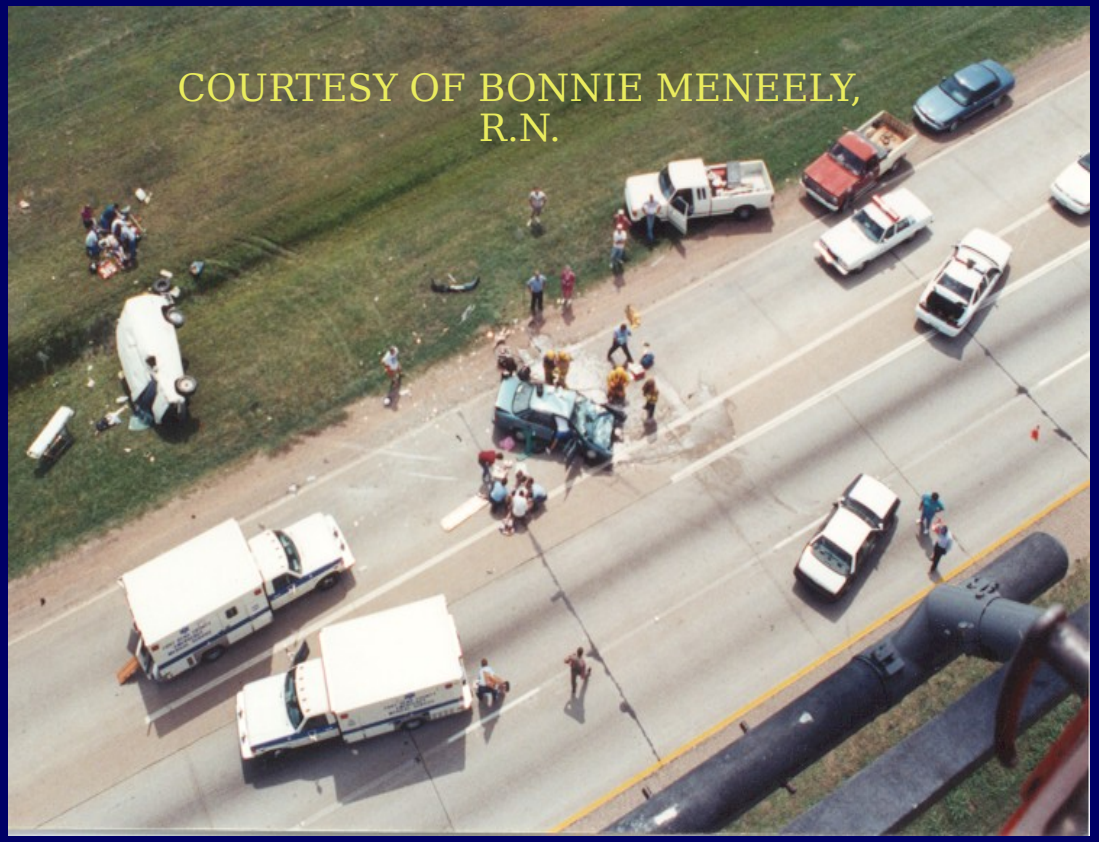
Assessment and Initial Management of the Trauma Patient

INTRODUCTION

- Rapid systematic assessment is key
- Interventions identified as lifesaving measures are initiated immediately
- A-B-C’s first step in initial assessment

SCENE SIZE-UP



SCENE SAFETY/ SECURITY

- Medic situational assessment differs from civilian scene size-up.
- Centers around an awareness of the tactical situation and current hostilities.
- Examine Battlefield:
  - Determine zones of fire
  - Routes of access and egress
  - Casualties occur over time changing demands

CARE UNDER FIRE

- What care can be offered at casualty's side
- Effects of movement, noise, and light
- Movement to safety
- Cover and Concealment

ENTERING A FIRE ZONE

- Seek cover and concealment
- Survey for small arms fire
- Detect for fire or explosives
- Determine NBC status
- Survey structures for stability

MOVING CASUALTY TO SAFE AREA FOR TREATMENT

- Low profile for casualty and yourself
- May need to request assistance
- Protection outweighs risk of aggravating injuries
- NEVER hesitate to move a casualty who is under fire.
- If casualty is not under fire, you may elect to delay movement if C-spine injury likely.

MECHANISM OF INJURY

- Determine how injury occurred
  - Burns
  - Ballistics
  - Falls
  - NBC
  - Blast

NUMBER OF PATIENTS

- Consider Mass casualty situation
- Triage patients accordingly
- Need for assistance or additional supplies
- Manage time, equipment, and resources

ADDITIONAL HELP

- Direct Combat Lifesavers (CLS) to provide treatment
- Direct self-aid/buddy aid
- Request of suppressive fire for movement of casualties
- Plan evacuation routes

C-SPINE STABILIZATION/ OTHER EQUIPMENT

- Spineboard
- C-collar
- Factors or Limitations of NBC environment
- Other equipment:
  - Airway adjuncts
  - Oxygen
  - Extrication devices

ASSESSMENT AND INITIAL MANAGEMENT OF THE TRAUMA PATIENT

BTLS PRIMARY SURVEY

- Scene Size-up
- Initial Assessment
- Rapid Trauma Survey or Focused Exam

PURPOSES OF INITIAL ASSESSMENT

- Prioritize casualties
- Determine immediate life threatening conditions
- Information gathered used to make decisions concerning critical interventions and time of transport
- No secondary interventions implemented before completion of initial assessment

NO SECONDARY INTERVENTIONS WILL BE IMPLEMENTED BEFORE COMPLETION OF INITIAL ASSESSMENT EXCEPT FOR:

- Airway Obstruction
- Cardiac Arrest

FORM GENERAL IMPRESSION

- Observe position of casualty
  - posture
  - accessibility
- Appearance of casualty
- Begin to establish priorities of care

ESTABLISH C-SPINE CONTROL

LEVELS OF CONSCIOUSNESS

A – ALERT AND ORIENTED

V – RESPONDS TO VERBAL STIMULI

P – RESPONDS TO PAIN

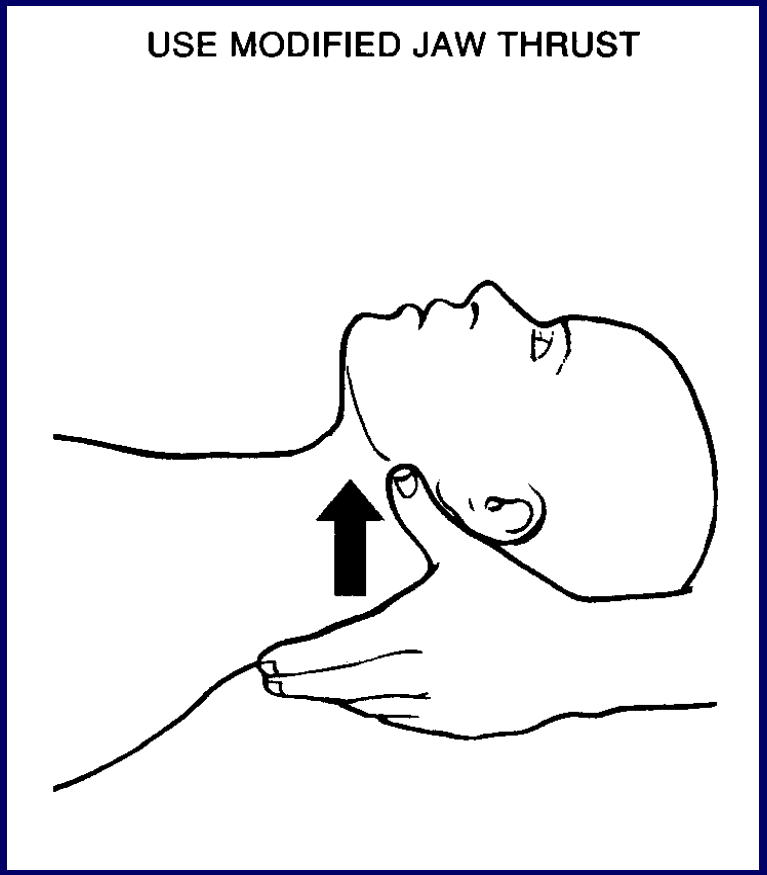
U – UNRESPONSIVE (NO COUGH OR GAG REFLEX)

ASSESS AIRWAY

If patient is unable to speak or is unconscious then evaluate further

OPENING THE AIRWAY

Modified Jaw Thrust



OBSTRUCTED AIRWAY

- Attempt to ventilate; if unsuccessful
- Reposition and attempt to ventilate again
- Visualize observing for obvious obstruction
- Suction, if needed

OBSTRUCTED AIRWAY con't

- Consider FBAO management
- Consider Combi-tube
- Consider Needle Cricothroidotomy

RATE AND QUALITY OF RESPIRATIONS

- **Absent** - Ventilate twice and check pulse and do CPR if required. Then provide PPV at 12-15 resp/min with 15L/m of O2
- **Rate<12/min -** BVM at 12-15/min with 15L/m of O2
- Low Tidal Volume - BVM at 12-15/min with 15L/m of O2

RATE AND QUALITY OF RESPIRATIONS

- Labored - Oxygen by non-rebreather at 15L/min
- Normal or Rapid - All trauma patients should receive oxygen
- Ventilation rate is 12-15/min instead of 10-12 IAW AHA due to the patient being without oxygen for a probable extended period of time. The increase in ventilation rate also allows for mask leak which can average up to 40%.

ACTIONS FOR SPECIFIC AIRWAY SOUNDS

- Snoring - Jaw Thrust
- Gurgling - Suction
- Stridor – consider Combi-tube
- Silence - Follow steps in assessing airway

Assess Circulation

Assess Circulation

- Palpate carotid and radial pulses; brachial in an infant
- Check CCT
- Check for major bleeding

RADIAL PULSE

- **Present** - Note rate and quality
- **Bradycardia** - Consider spinal shock; head injury
- **Tachycardia** - Consider shock
- **Absent** - Check carotid pulse; note late shock (consider PASG)

CAROTID PULSE

- **Present** - Note rate and quality
- **Bradycardia** (<60bpm) - Consider spinal shock; head injury
- **Tachycardia** (>120bpm) - Consider shock
- **Absent** - CPR + BVM+O2, Defib with AED as appropriate

CHECK FOR MAJOR BLEEDING

- Direct pressure a
  elevation
- Pressure dressing
- Pressure points
- Tourniquet
- PASG

CPR

- Combat situation CPR will be METT-T dependent
- If METT-T allows, you would begin CPR for the potentially expectant patient

EXPOSE WOUNDS

- Remove all equipment and clothing from area around wounds
- Identify any additional life-threatening injuries

DCAP-BLS

- Deformities
- Contusions
- Abrasions
- Penetrations
- Burns
- Lacerations
- Swelling

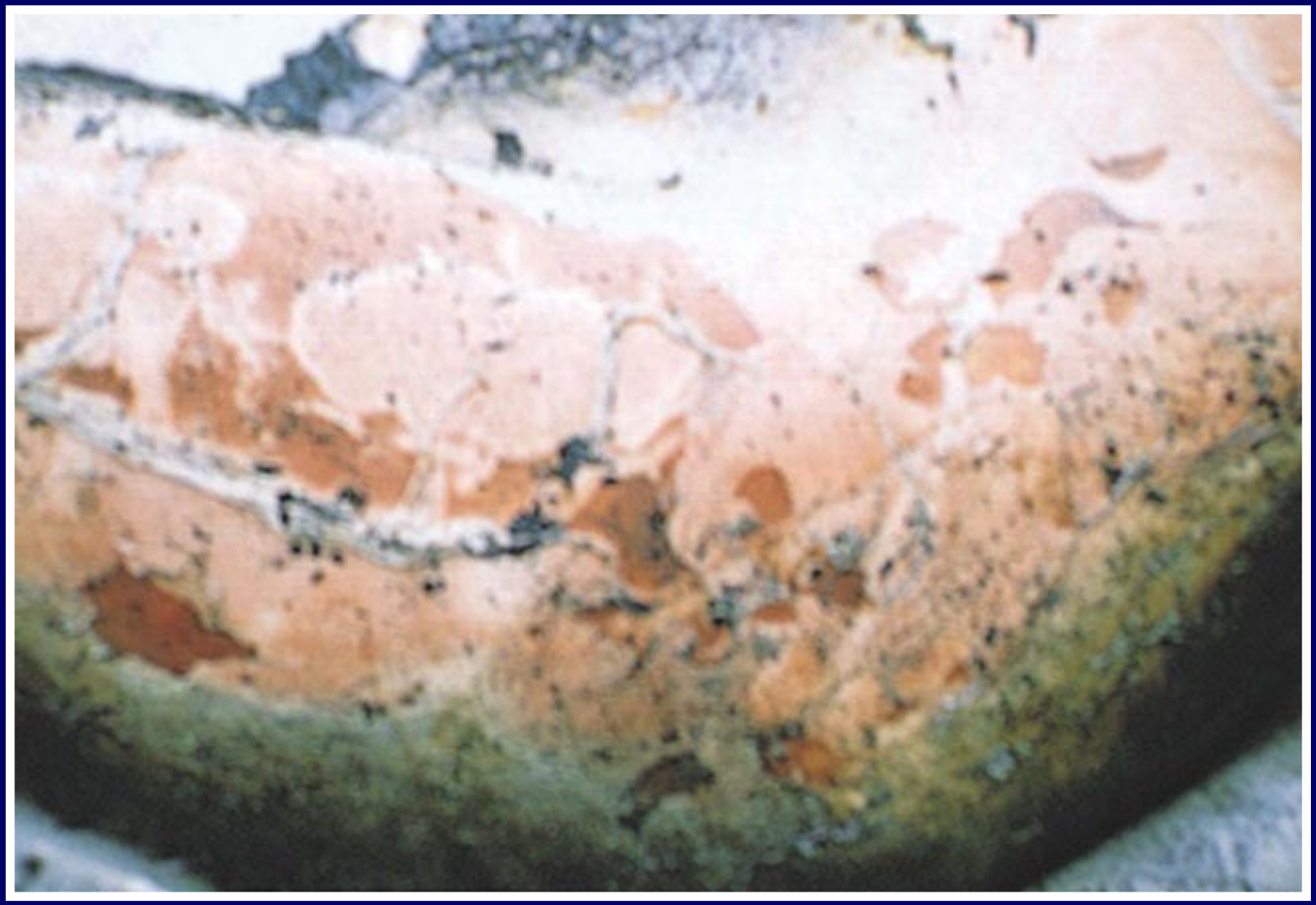
Deformities

Contusions (bruises)

Abrasions

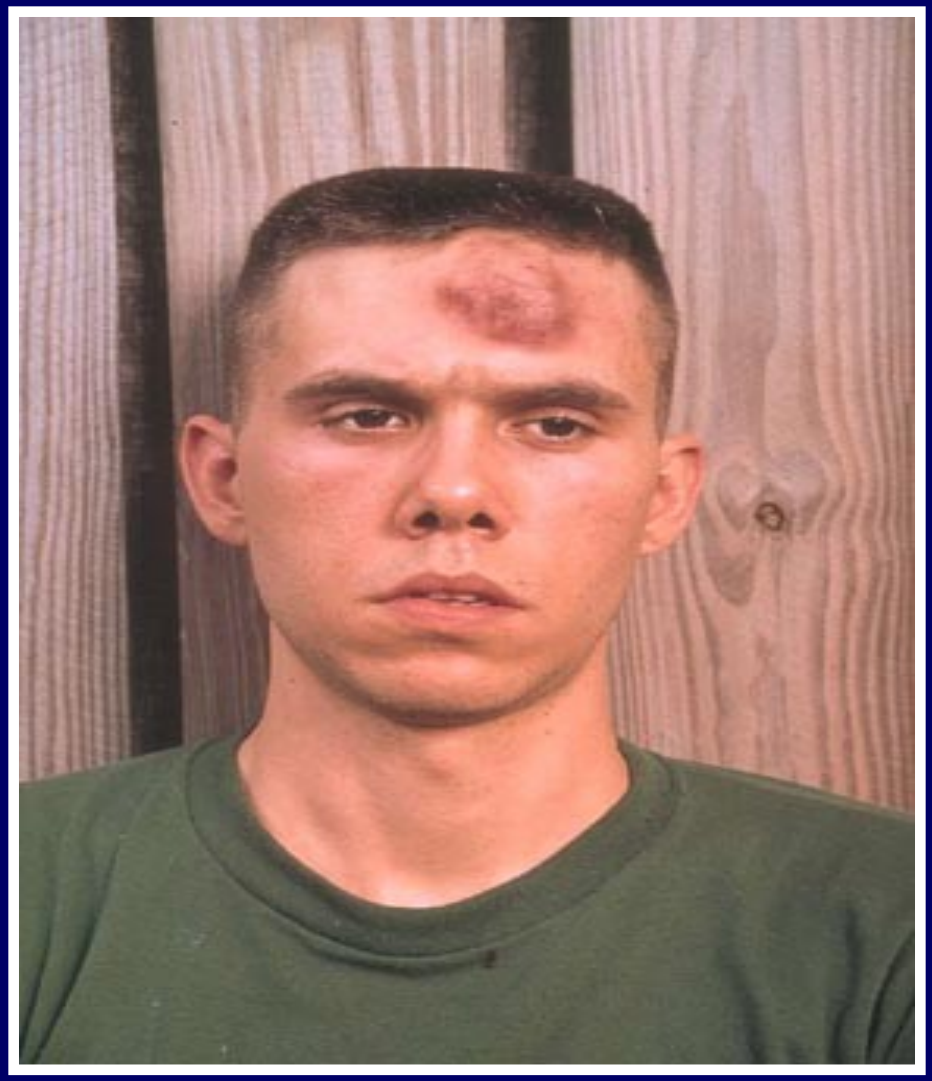
Punctures/Penetrations

Burns



Lacerations

Swelling



PALPATION

Touching or feeling for:

- TIC
- TRD-P

TIC

- Acronym used when palpating body parts of the body
- TIC
  - Tenderness
  - Instability
  - Crepitus

TRD-P

- Acronym used when palpating the abdomen
- TRD-P
  - Tenderness
  - Rigidity
  - Distention
  - Pulsating Masses

RAPID TRAUMA SURVEY

Quick “Head-To-Toe” Exam

- Head
- Neck
- Chest
- Abdomen
- Pelvis
- Extremities
- Back

RAPID TRAUMA SURVEY

- **BRIEF** exam done to find all life-threats
- No splinting done except for anatomically splinting casualty to a spineboard
- Only a few interventions are done on scene

INTERVENTIONS PERFORMED AT SCENE

- Initial Airway Management
- Assist Ventilations
- Begin CPR if METT-T allows
- Control of major external bleeding

INTERVENTIONS PERFORMED AT SCENE

- Seal sucking chest wounds
- Stabilize flail chest
- Decompress tension pneumothorax
- Stabilize impaled objects

HEAD

- DCAP-BLS
- Obvious hemorrhage
- Major facial injuries - consider other airway adjuncts
- TIC

NECK

- DCAP-BLS
- Retraction at suprasternal notch
- Tracheal deviation
- JVD
- Use of accessory muscles
- TIC
- Cervical spine step-off

AUSCULTATE FOR AIR SOUNDS IN TRACHEA

- Stridor
- Gurgling
- Snoring

APPLY C-COLLAR AFTER ASSESSING NECK

Chest: DCAP-BLS + TIC, paradoxical motion, Symmetry, Breath Sounds (Presence and Quality), and heart sounds (baseline measurement)

isten to both sides of the chest. Is air ent present? Absent? Equal on both sides? Compare left side to right side.

Mid-Clavicular

Mid-Axillary

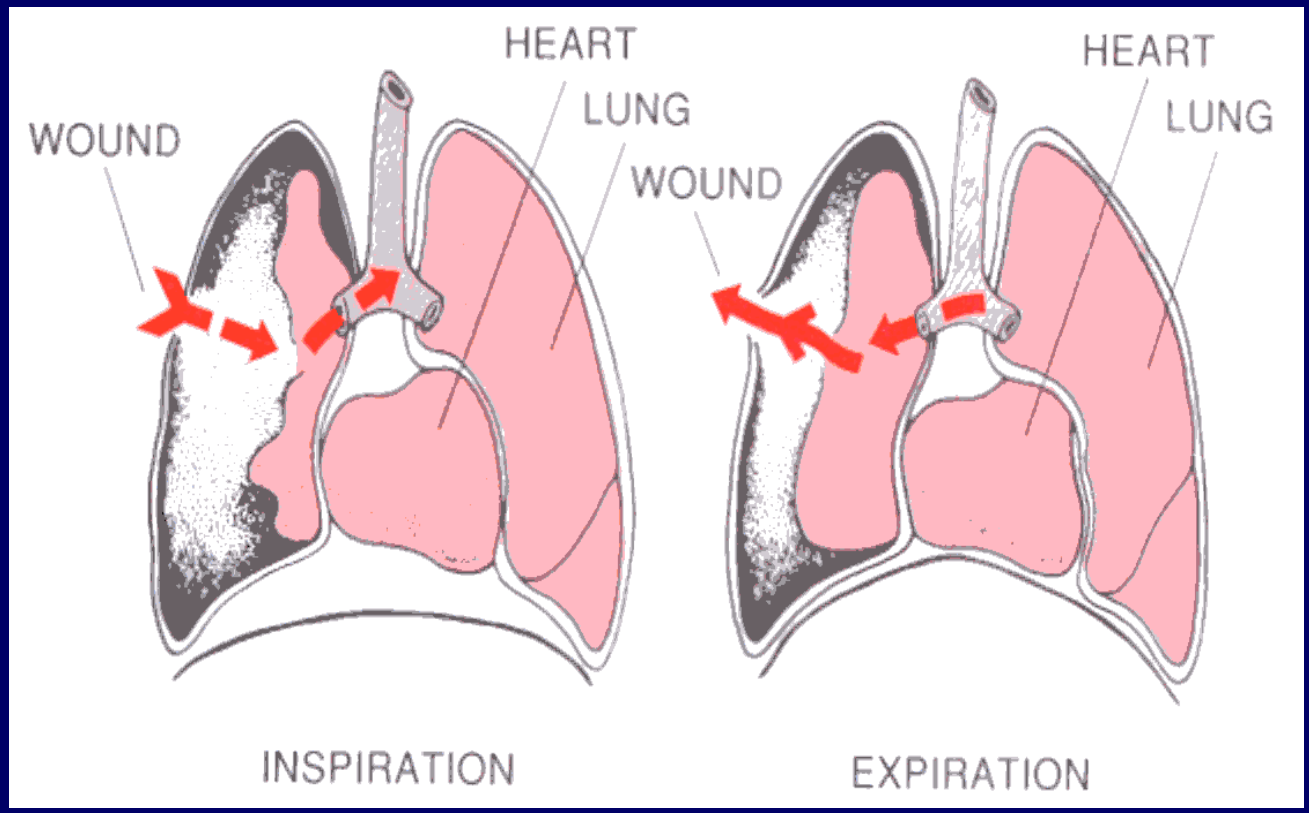
DIMINISHED OR ABSENT BREATH SOUNDS

- Percuss to check for hemothorax vs. pneumothorax
- Hypo-resonance = Hemothorax
- Hyper-resonance = Pneumothorax

PNEUMOTHORAX OR COLLAPSED LUNG

- Collection of air or gas in pleural spaces
- Open chest wounds that permit entrance of air
- May occur spontaneously without apparent cause

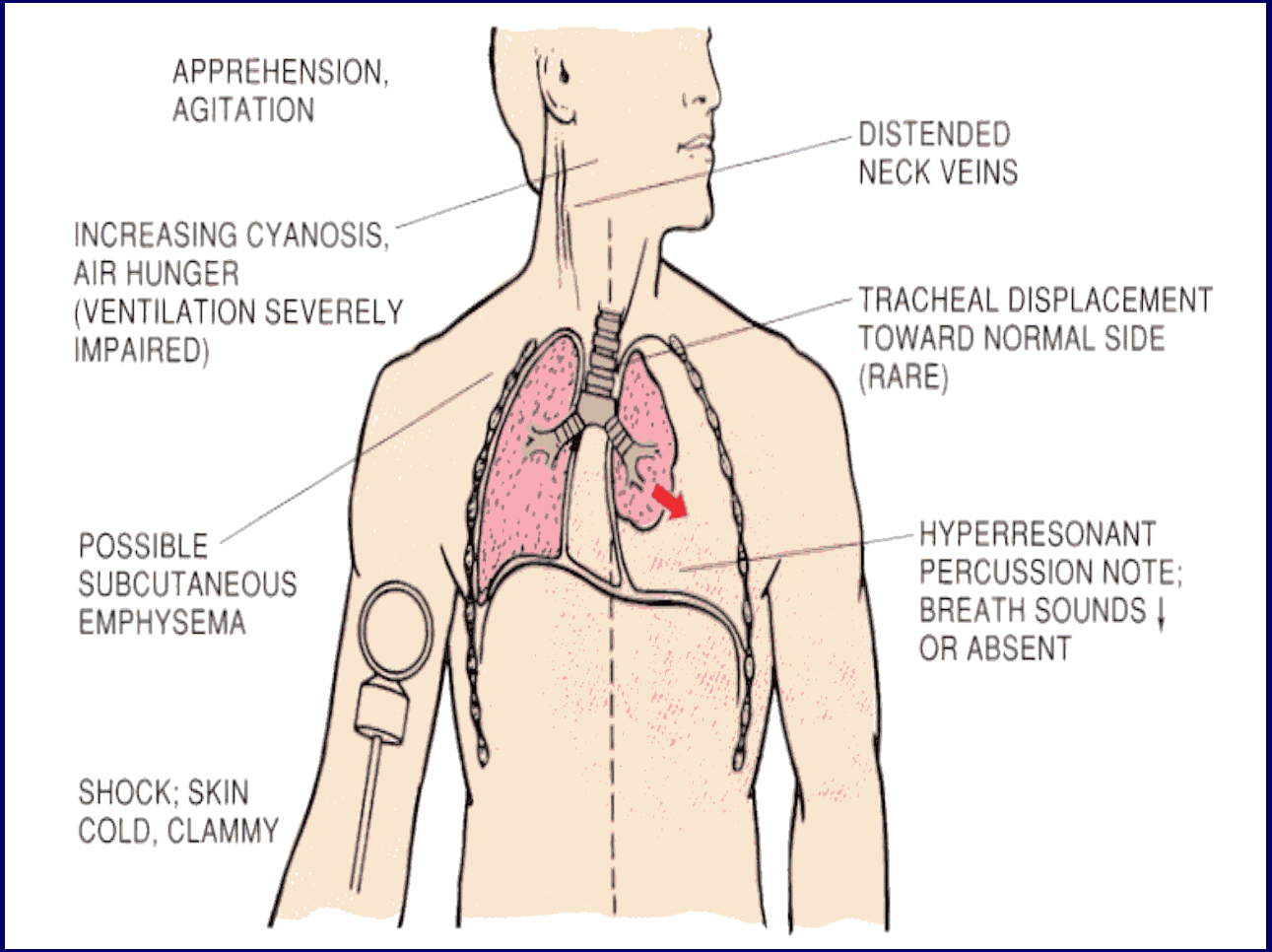
OPEN PNEUMOTHORA



TENSION PNUEMOTHORAX

- Required as consideration by any or all of the following
  - Decreased or absent breath sounds
  - Decreasing LOC
  - Absent radial pulse
  - Cyanosis
  - JVD
  - Tracheal Deviation
  - Decreasing bag compliance

TENSION PNEUMOTHORAX


APPREHENSION, AGITATION
DISTENDED NECK VEINS
INCREASING CYANOSIS, AIR HUNGER (VENTILATION SEVERELY IMPAIRED)
TRACHEAL DISPLACEMENT TOWARD NORMAL SIDE (RARE)
POSSIBLE SUBCUTANEOUS EMPHYSEMA
HYPERRESONANT PERCUSSION NOTE; BREATH SOUNDS ↓ OR ABSENT
SHOCK; SKIN COLD, CLAMMY

INDICATIONS TO DECOMPRESS TENSION PNEUMOTHORAX

The presence of tension pneumothorax with decompensation as evidenced by more than one of the following:

- Respiratory distress and cyanosis
- Loss of radial pulse (late shock)
- Decreasing LOC

ABDOMEN

- **DCAP - BLS**
- **External blood**
- **Impaled objects**
- **Evisceration**
- **Inspect posteri abdomen for ex wounds/bruisin**
- **Palpate for:**
  - **TRD-P**

PELVIS

- DCAP-BLS
- Priaprism
- Incontinence
- TIC
- Symphysis Pubi
- Iliac Crests

EXTREMITIES

- Examine lower then upper extremities
- DCAP-BLS
- TIC
- PMS in each extremity

LOGROLL AND PLACE ON BACKBOARD UNLESS CONTRAINDICATED

CONTRAINDICATIONS TO LOGROLL:

- Pelvic Instability
- Bilateral Femur Fractures

A Scoop Litter is required with these injuries

BACK

- Done DURING transfer to backboard
- DCAP - BLS
- Rectal Bleedin
- TIC

SAMPLE HISTORY

- S – SIGNS/SYMPTOMS
- A – ALLERGIES
- M –MEDICATIONS
- P – PAST MEDICAL HISTORY
- L – LAST MEAL
- E – EVENTS PRIOR TO INJURY

OBTAIN BASELINE VITALS

- Pulse
- Respirations
- Blood Pressure
- Pupils
- CCT

Neurological Exam

Perform brief exam if patient has an altered mental status

- PERL
- Glasgow Coma Scale (GCS)
- Assess disability

TRANSPORT PATIENT OR MOVE PATIENT TO CASUALTY COLLECTION POINT